

### **REMARKS**

Claims 25-48 are currently pending in the subject application, and are presently under consideration. Claims 25-35 are allowed. Claims 36-46 are rejected. Claims 47 and 48 have been indicated as allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 38, 45 and 46 have been amended. New claim 49 has been added. Favorable reconsideration of the application is requested in view of the amendments and comments herein.

#### **I. Rejection of Claims 38, 45 and 46 Under 35 U.S.C. §112, Second Paragraph**

Claims 38, 45 and 46 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Claim 38 has been amended to correct formal matters, while claims 45 and 46 have been amended to correct formal matters and to depend from claim 44. Applicant's representative respectfully submits that amended claims 38, 45 and 46 are no longer rejectable under 35 U.S.C. §112. Accordingly, withdrawal of this rejection is respectfully requested.

#### **II. Rejection of Claims 36-40 and 42 Under 35 U.S.C. §102(b)**

Claims 36-40 and 42 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Publication No. 2003/0035967 A1 to Effenberger ("Effenberger"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 36 recites a surface-modified layer system comprising a substrate having a surface and a self-assembled monolayer (SAM) anchored to at least part of the surface, wherein the SAM is comprised of a aryl or rigid alicyclic moiety species in a substantially stable structural form derived, in situ, by thermal treatment from a less stable structural form. Thus, the surface-modified layer system recited in claim 36 is a product-by-process since the recited SAM, which is an element of the surface-modified layer system, is derived in situ by thermal treatment from a less stable structural form.

In a product-by-process claim, evidence can be presented establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 U.S.P.Q. 289, 292 (Fed. Cir. 1983). Effenberger discloses that self-assembling monolayers are formed by irradiation with an HBO or an XBO lamp (See Effenberger, Pars. [0035] and [0042]). As explained on page 4, lines 13-20 and page 12, lines 5-14 of the Specification, deriving a SAM in situ by thermal treatment from a less stable structural form, as recited in claim 36, produces a SAM that is distinguished from SAMs formed by methods known in the prior art. In particular, the SAM recited in claim 36 inherently has an increased structural perfection with significantly increased domain sizes and resistance to structural disruption by surface discontinuities. Thus, the process employed to produce the SAM recited in claim 36, which SAM is an element of the surface-modified layer system recited in claim 36, results in tangible physical properties that differentiate it from Effenberger. That is, no structure disclosed in Effenberger inherently possesses the properties of the SAM derived in situ by thermal treatment from a less stable structural form, as recited in claim 36. Thus, Effenberger does not anticipate claim 36, and claim 36, as well as claims 37-40 and 42 depending therefrom, should be patentable over the cited art. Accordingly, withdrawal of this rejection is respectfully requested.

### **III. Rejection of Claims 36-44 Under 35 U.S.C. §102(b)**

Claims 36-44 stand rejected under 35 U.S.C. §102(b) as being anticipated by "*Selective Electrochemical Deposition of Polyaniline via Photopatterning of a Monolayer-Modified Substrate*", Journal of American Chemical Society, 1994, by Rozsnyai, et al. ("Rozsnyai"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

As noted above, the surface-modified layer system recited in claim 36 is a product-by-process. Rozsnyai discloses electropolymerization of an of aniline on a substrate (See Rozsnyai, Page 5993, second paragraph). In Rozsnyai, the electropolymerization of aniline on the substrate results in deposition selectively on an unirradiated region of a surface (See Rozsnyai, Page 5993, second paragraph). As also noted above, the SAM recited in claim 36 (derived in situ by thermal

treatment from a less stable structural form) inherently has an increased structural perfection with a significantly increased domain size and resistance to structural disruption by surface discontinuities. No structure or function disclosed in Rozsnyai inherently possesses the properties of the SAM recited in claim 36. Accordingly, Rozsnyai does not anticipate claim 36, and claim 36, as well as claims 37-44 depending therefrom, should be patentable over the cited art, and withdrawal of this rejection is respectfully requested.

**IV. New Claim 49**

New claim 49 has been added by this amendment and is supported by at least page 12, lines 5-14 of the Specification. New claim 49 depends from claim 36 and recites that a SAM comprises domain sizes that exceeds  $10^5$  square nanometers ( $\text{nm}^2$ ). None of the cited art discloses or suggests this concept. Accordingly, none of the cited art anticipates new claim 49 or renders new claim 49 obvious. Therefore, consideration and allowance of new claim 49 is respectfully requested.

**CONCLUSION**

In view of the foregoing remarks, Applicant respectfully submits that the present application is in condition for allowance. Applicant respectfully requests reconsideration of this application and that the application be passed to issue.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

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